Splash Screen
Students Engaging Local Watersheds Using Mobile Technologies

TIES Conference
December 12, 2016
Session Outline

• What is Splash Screen?
• What did implementation look like?
• What technology was used?
• What were the results of the evaluation?
• What lessons were learned at the end?
• Q&A
Funding provided by the Minnesota Environment and Natural Resources Trust Fund
Last Child in the Woods
SAVING OUR CHILDREN FROM NATURE-DEFICIT DISORDER

RICHARD LOUV
RECIPIENT OF THE 2008 AUDUBON MEDAL
Place-based Education + Mobile Learning for Watershed Understanding
Built on TPT’s tradition of STEM media excellence.

Based on a partnership model.
Splash Screen Partners:
U of MN Extension Center for Youth Development | Duluth
Urban 4H | University of MN | Twin Cities Metro Area

LAKE SUPERIOR
Great Lakes Basin
{St Louis River Watershed}

MISSISSIPPI RIVER
Upper Mississippi Basin
{various watershed organizations}
### Splash Screen Schedule

**September 2015 - December 2016**

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Lesson</th>
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<tr>
<td><strong>September 2015 - January 2016</strong></td>
<td>4-H will select ten participating sites; TPT will prepare the workshop.</td>
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<td><strong>March 2016</strong></td>
<td>The professional development workshops will be hosted in Duluth &amp; St. Paul, Minnesota.</td>
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<td><strong>April - August 2016</strong></td>
<td>Sites will implement the program with students. Support for training will occur online and during bi-monthly webinars.</td>
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<td><strong>End of Summer 2016</strong></td>
<td>TPT will host a celebratory event during which groups will share their youth work with each other and the community.</td>
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<td><strong>October 2016 - December 2016</strong></td>
<td>Evaluation work and conference presentations.</td>
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It’s a simple proposition, really. Bring education back into the neighborhood.

-- David Sobel
Affordances of Mobile Technology for Learning:

portability—can take the computer to different sites and move around within a location;

social interactivity—can exchange data and collaborate with other people face to face;

context sensitivity—can gather data unique to the current location, environment, and time, including both real and simulated data;

connectivity—can connect handhelds to data collection devices, other handhelds, and to a common network that creates a true shared environment; and

individuality—can provide unique scaffolding that is customized to the individual’s path of investigation

--Klopfer, Squire, & Jenkins
Project WET
Water Education for Teachers

• National Program http://www.projectwet.org/

• Water Ways: A Minnesota Water Primer and Project WET Companion http://www.dnr.state.mn.us/projectwet/waterways/index.html

• The Clean and Conserve Education Program http://www.projectwet.org/cleanandconserve
21\textsuperscript{st} Century Skills – the 4 Cs

1) critical thinking,
2) communication,
3) collaboration, and
4) creativity.
Learning Goals

During Splash Screen program, learners will:

• Experience an introduction to water resources in their community;
• Be able to describe the major features of their local watershed;
• Explain ways—both good and bad—that humans can impact this important resource;
• Understand storm water run-off and what people can do to prevent it; and
• Develop a public information campaign to share with their peers, family and community.
Training

- Two day in-person training with Project Wet state coordinator, TPT staff and 4-H staff
  - Curriculum
  - Pedagogy
  - Technology
- One-on-one follow-up tech meetings
- Scheduled conference calls
Implementation

- **Thirteen** Splash Screen programs were implemented for spring-summer 2016.
- 107 youth participated.
- Each program used the curriculum but varied the order of the lessons.
- Each program engaged content experts and/or went on field trips.
- All programs utilized apps or other technology for the final project but varied their use of apps and blogging software throughout the program.
Technology

• 40 Android tablets were purchased.

• 4 kits were created so that multiple programs could happen at the same time.

• Kit contents
  • 10 tablets (Nexus 9)
  • 2 power strips
  • 3 portable wifi devices (Karma)
  • Charging cables
  • Screen cleaner

• Tablets were pre-loaded with youth accounts and apps.

• User agreement was signed by youth and parents prior to program starting.
Apps loaded on the tablets

- Mapping
- Tools
- Media Creation
- Training
Final Projects

Pollution
by
Isabelle
and Laci
Final Projects
Evaluation

Science Museum of Minnesota’s Evaluation and Research in Learning group

Evaluation will focus on measuring the overall impact of the project on the educators and youth in relation to the project outcomes.

Research Questions:
1) How prepared are educators and what support do they need to implement the Splash Screen curriculum? How prepared and what support do they need to integrate technology, inquiry, and place-based education strategies into their use of the curriculum?
2) To what extent does the project increase educator awareness and knowledge of issues around watershed health and environmental stewardship?
3) To what extent does the project increase educator knowledge and skills around the integration of technology into environmental education?
4) To what extent do youth increase their awareness and knowledge about watersheds, issues and decisions that affect watershed health, and actions they can take to be stewards of watersheds in their community?
Lessons Learned

- Wifi in park building and libraries!
- Surprise! Youth and technology.
- Brain breaks are important.
- Communication is key.
- There’s never enough time.
- Working with partners is great!
- Potential as a framework for other types of place-based + mobile environmental education programs.
“Lou’s vital, inclusive, and inspiring call to better our lives by celebrating and protecting the living world marks the way to profound personal and cultural transformation.”—Booklist, starred review

the
NATURE
PRINCIPLE

HUMAN RESTORATION
AND THE END OF
NATURE-DEFICIT DISORDER

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